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EXAMINER	
BELANI, KISHIN G	
ART UNIT	PAPER NUMBER
2443	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/763,943	MATSUHIRA, NAOKI	
	Examiner	Art Unit	
	KISHIN G. BELANI	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5 and 6* is/are allowed.

6)☒ Claim(s) *1-4 and 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Applicant's amendment filed on 11/12/2009.

Independent claim 1 has been amended. **Claims 1-7** are now pending in the present application. The applicants' amendments to claims are shown in ***bold and italics*** and the examiner's response to claim amendments is shown in **bold** in this office action.

This Action is made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ozaki et al. (U.S. Patent Application Publication # 2004/0071148 A1)** in view of **Yokomitsu et al. (U.S. Patent Application Publication # 2005/0021603 A1).**

Consider **claim 1**, Ozaki et al. show and disclose a router for automatically generating an IP address comprising a position identifier portion and an interface identifier portion (Fig. 1, gateway block 110; paragraph 0008, lines 1-8 which disclose a gateway device (interpreted by the examiner to be functionally equivalent to a router) automatically generating both the IPv6 interface ID and a network ID (interpreted by the examiner to be a position identifier portion of the IPv6 address)), said router comprising: a routing table for storing each position identifier portion and information on an output route for the position identifier portion, said routing table being referred to for routing a received IP packet to an output route corresponding to a destination position identifier portion of said received IP packet (Figs. 5, translation table block 400, and Fig. 9; paragraph 0008, lines 17-21 which disclose how the address translation table (routing table) correlates the IPv6 address with the network identifier portion; Fig. 11 which shows the flowchart for transmitting data from a non-IP device 100 to an IP device (such as a cell-phone 130 or a laptop 140 shown in Fig. 1) via IPv6 router 120, in step 562 showing the process of acquiring destination address from the translation table; Fig. 9 also show the corresponding steps including the use of the Translation Table 400 and the structure of the incoming packet data 450 vs. the outgoing packet data 460; paragraph 0059 further discloses the details of the process shown in Figs. 9 and 11,

thereby teaching that the gateway 110 not only controls a correspondence relationship between a generated IPv6 address and a network identifier, but also controls a correspondence relationship between the generated IPv6 address and an output route);

a determining unit for determining for each of a plurality of ports of said router whether a position identifier portion is assigned to an IP network to which the port is connected (paragraph 0003, lines 1-4 which disclose that a combination of an IP address and a port number is used as an IP identifier for each of a plurality of ports connected to a network; paragraph 0005, lines 1-8 which disclose that the gateway can assign a unique IP address even to a non-IP device; paragraph 0008, lines 11-13 which disclose that the gateway device has a network ID acquisition unit for acquiring the network ID of the IP network; Fig. 5 and paragraph 0043, lines 5-12 that disclose a translation table 400 used for uniquely associating a device address to a network ID; Fig. 1 which clearly shows that the said gateway not only supports a non-IP device 100 on a non-IP network 200, but also an IP device 150 on an IPv6 network 230; paragraph 0005 further states that the said gateway device can assign a unique IP address even to a non-IP device, thereby teaching that the gateway is quite capable of supporting any IPv6 device as well, as is clearly shown in Fig. 1);

a position identifier portion generating unit for newly-generating a position identifier portion ***without specially communicating with another apparatus for generating the position identifier and without using information on a port and information on an apparatus connected to the port,*** by using only all of said position identifier portions registered in said routing table when said determining unit determines that the

position identifier portion is not assigned to the port, said newly-generated position identifier portion being different from all of the position identifier portions registered in said routing table for the port and being generated by comparing with all of said position identifier portions registered in said routing table (Fig. 5; paragraph 0005, lines 1-8 which disclose that the gateway assigns unique IP address to each device connected to a non-IP network; the gateway has to search the translation table 400 for all the entries registered in the table to either find a match or if there is no match, to register a new entry; Fig. 5, Table 400 that shows a correspondence between a local address 411 and an IPv6 address 412, such that when a new non-IP device is attached to a port of the said gateway, a new entry will have to be made in Table 400 to associate the local address of the device with a newly-generated IPv6 address for the device, so the messages from/to the new device can be appropriately routed**; as shown above, the net effect of all the changes made to the claim text does not change any of the claimed features, it only rearranges the text portions; therefore, the examiner's previous rejection still reads on this amended claim, and requires no new prior art);**

a routing unit for receiving routing information including a position identifier portion according to a dynamic routing protocol and registering the routing information in said routing table, and registering routing information including the position identifier portion generated by said position identifier portion generating unit in said routing table and notifying another router of the routing information (Fig. 7, block 120 in which an IPv6 router provides a network ID to a routing unit of the gateway and a register block 504 for

recording the network ID in the registration data block 700, which is the routing table; paragraph 0046 that details the translation table registration process; paragraph 0049, lines 6-12 that describe a method for finding the address of the lower layer of the IPv6 using NDP (Neighborhood Discovery Protocol); Fig. 8, blocks 533 and 120; paragraph 0050, lines 3-15 which describe how the NDP is used to notify other routers of the routing information); and

a position identifier portion advertising unit for advertising the generated position identifier portion from the port on the position identifier portion (Fig. 7, block 511; Fig. 8, blocks 533 and 120 that show the advertising unit for port's generated IPv6 address; paragraph 0050, lines 3-15 which describe the process of broadcasting the generated IPv6 address using NS (neighbor solicitation) packet).

However, Ozaki et al. do not specifically show and disclose that said routing table is being referred to for routing a received IP packet from an IP network to an output route on an output port to which is connected an IP network and the received IP packet is transmitted corresponding to the destination position identifier portion of said received IP packet; and using only all of said position identifier portions registered in said routing table without using information on the port and information on an apparatus connected to the port.

In the same field of endeavor, Yokomitsu et al. shows and disclose the claimed router, wherein said routing table is being referred to for routing a received IP packet from an IP network to an output route on an output port to which is connected an IP network and the received IP packet is transmitted corresponding to the destination

position identifier portion of said received IP packet (Fig. 15 that shows a router 102 receiving an IP packet from an IP network (the Internet 101), and distributing the packet to one of the host servers 103 and 104 based on the destination position identifier portion of said received IP packet over the router's output ports 80 and 81; Fig. 16 shows sample entries listing correspondence between the router's port numbers (80 for server 103 and 81 for server 104) and the server destination addresses (192.168.0.253 for server 103 and 192.168.0.254 for server 104; paragraphs 0005-0008 further describe the same details)); and

using only all of said position identifier portions registered in said routing table without using information on the port and information on an apparatus connected to the port (Fig. 16 that shows using only the registered IP addresses of the host servers in the routing table to distribute the packets to the specified destination; paragraphs 0005-0008 further describe the same details).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to refer to said routing table for routing a received IP packet from an IP network to an output route on an output port to which is connected an IP network and the received IP packet is transmitted corresponding to the destination position identifier portion of said received IP packet, and use only all of said position identifier portions registered in said routing table without using information on the port and information on an apparatus connected to the port, as taught by Yokomitsu et al., in the router Ozaki et al., so that packets are received at their destination IP address without too much delay caused by computational algorithms.

Consider **claim 2**, and **as applied to claim 1 above**, Ozaki et al., as modified by Yokomitsu et al., show and disclose a router wherein said determining unit determines whether a position identifier portion is assigned to the network to which the port is connected on the basis of whether a position identifier portion advertised according to a neighbor discovery protocol for IPv6 is received from said port (in Ozaki et al. reference, Fig. 8; paragraph 0049, lines 9-12 that describe a method for finding the address of the lower layer of the IPv6 using NDP (neighbor discovery protocol); and paragraph 0050, lines 3-15 which disclose that after the gateway detects a NS (neighbor solicitation) packet destined for the port, it sets the address of the lower layer of the IP in a neighbor advertisement packet and transmits it to the router 120).

Consider **claim 7**, and **as applied to claim 1 above**, Ozaki et al., as modified by Yokomitsu et al., show and disclose a router comprising a routing unit for receiving routing information including a position identifier portion according to a dynamic routing protocol and registering the routing information in said routing table, and notifying another router of routing information including the position identifier portion generated by said position identifier portion generating unit (in Ozaki et al. reference, Fig. 7, block 120 in which an IPv6 router provides a network ID to a routing unit of the gateway and a register block 504 for recording the network ID in the registration data block 700, which is the routing table; paragraph 0046 that details the translation table registration process; paragraph 0049, lines 6-12 that describe a method for finding the address of

the lower layer of the IPv6 using NDP (Neighborhood Discovery Protocol); Fig. 8, blocks 533 and 120; paragraph 0050, lines 3-15 which describe how the NDP is used to notify other routers of the routing information).

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ozaki et al. (U.S. Patent Application Publication # 2004/0071148 A1)** in view of **Yokomitsu et al. (U.S. Patent Application Publication # 2005/0021603 A1)** and further in view of **Miyata et al. (U.S. Patent Application Publication # 2005/0100008 A1)** and further in view of **Sato et al. (U.S. Patent Application Publication # 2004/0024860 A1).**

Consider **claim 3**, and **as applied to claim 1 above**, Ozaki et al., as modified by Yokomitsu et al., show and disclose the claimed invention except a router in which said position identifier portion generating unit generates a random number and compares the generated random number with all of said position identifier portions registered in said routing table, and repeats generating and comparing another random number with all of said position identifier portions registered in said routing table when the generated random number matches one of said position identifier portions registered in said routing table, to thereby generate the position identifier portion using the generated random number that does not match all of said position identifier portions registered in said routing table without transmitting said random number to another apparatus.

In the same field of endeavor, Miyata et al. disclose generating the position identifier portion of the IPv6 address using a random number generating scheme (Figs. 28, blocks 503-509; Figs. 29-31; paragraph 0100, lines 5-8 that describe using a random address creation method for an IPv6 address; paragraph 0101 that describes the same details).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to generate the position identifier portion of the IPv6 address using a random number generating scheme, as taught by Miyata et al. in the gateway of Ozaki et al., as modified by Yokomitsu et al., so that unique IPv6 addresses can be generated without delaying the network by spending too much computational power.

However, Ozaki et al., as modified by Yokomitsu et al., and Miyata et al., do not specifically disclose comparing the generated random number with all of said position identifier portions registered in said routing table, and repeating generating and comparing another random number with all of said position identifier portions registered in said routing table when the generated random number matches one of said position identifier portions registered in said routing table, to thereby generate the position identifier portion using the generated random number that does not match all of said position identifier portions registered in said routing table without transmitting said random number to another apparatus.

In the same field of endeavor, Sato et al. disclose comparing the generated random number with all of said position identifier portions registered in said routing

table, and repeating generating and comparing another random number with all of said position identifier portions registered in said routing table when the generated random number matches one of said position identifier portions registered in said routing table, to thereby generate the position identifier portion using the generated random number that does not match all of said position identifier portions registered in said routing table (paragraphs 0095-0096 and 0129-0130 which describe generation of a device ID using a random number generator, then checking the generated device ID for a duplicate value in a database of saved device IDs, and if any duplicate value is found, replacing it with another randomly-generated device ID value that is not a duplicate);
without transmitting said random number to another apparatus (the amended claim text "without transmitting said random number to another apparatus" is inconsistent with the applicant's disclosure in Fig. 1, wherein the claimed router 20 does communicates with the hosts 24#1 and 24#2 providing converted IPV6 addresses to them, such converted addresses including the generated random number).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to compare the generated random number with all of said position identifier portions registered in said routing table, and repeating generating and comparing another random number with all of said position identifier portions registered in said routing table when the generated random number matches one of said position identifier portions registered in said routing table, to thereby generate the position identifier portion using the generated random number that does not match all of said position identifier portions registered in said routing table, as taught by Sato et al. in

the router of Ozaki et al., as modified by Yokomitsu et al., and Miyata et al., so that unique IPv6 addresses can be generated without delaying the network by spending too much computational power.

Consider **claim 4**, and **as applied to claim 1 above**, Ozaki et al. as modified by Yokomitsu et al., and Miyata et al., show and disclose the claimed invention except a router in which said position identifier portion generating unit generates said position identifier portion by incrementing a maximum position identifier portion registered in said routing table, thereby the incremented number does not match all of said position identifier portions registered in said routing table.

However, the examiner has taken official notice that at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to also consider providing a method for generating the position identifier address by sequentially incrementing the maximum (highest) position identifier address registered in the said routing table. Applicant has not disclosed that providing a method for generating the position identifier address by sequentially incrementing the maximum position identifier address registered in the said routing table provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the position identifier portion being generated by a random number generation method, as taught by Miyata et al. in the gateway of Ozaki et al., as modified by Yokomitsu et al., because a 16-bit random number can be generated very quickly in a 16-bit shift register

made from latches, and would generate a unique address for use as a Site-local aggregation address. Furthermore, it would be obvious to a person of ordinary skill in the art to find that when a number is being sequentially incremented by 1 (or any positive integer), no duplicate value will be produced (unless the number overflows due to hardware size limitation), as long as the increment is added to the previously generated maximum value.

Allowable Subject Matter

Claims 5 and 6 were previously modified to overcome the objections raised in the non-final office action dated 03/14/2007, and are therefore deemed allowable.

Response to Arguments

Applicant's arguments with respect to **claims 1-4 and 7** have been considered but are not persuasive, as the cited references provide adequate disclosure and support to **reject claims 1-4 and 7.** The examiner's response to the submitted arguments is shown below:

On page 8 of the "Remarks" section, the applicant argues that in Ozaki et al., the network ID is stored in main memory when it is received from an IPv6 router 120, but is not stored in the translation table 400 (i.e. routing table); further arguing that the network ID is obtained by specially communicating with an IPv6 router 120 and stored in the main memory 112 for generating IPv6 address for a non-IP device 100. The applicant therefore concludes that Ozaki et al. fail to disclose newly generating IPv6 address

without specially communicating with the router for newly generating IPv6 address, by only using translation table. The examiner respectfully disagrees with such conclusion. The amended constraints are no more than artificial limitations that are computerized steps in achieving the inventive concept of automatically generating IPv6 addresses. Such steps carry no inventive weight so long as the same final outcome is achieved. Thus, whether the network id is stored in a translation table or somewhere in main memory is no distinguishing feature that carries inventive weight. For the same reason, whether or not the inventive entity specially communicates with an external device to get the needed information also carries no inventive weight. The Ozaki et al. method also succeeds in automatically generating the IPv6 address, even if some of the computerized steps are different.

On page 9 of the "Remarks" section, the applicant further argues that in Ozaki et al. method "an IPv6 address is generated based on the network ID and a local address of the non-IP device 100 and a plurality of IPv6 addresses for the plurality of non-IP devices are generated by using only one network id because uniqueness of generated IPv6 addresses are assured by local addresses of the non-IP devices". The applicant therefore concludes that a plurality of network ids is not necessary to generate a plurality of IPv6 addresses according to the method described in Ozaki et al. Thus declaring that Ozaki et al. fail to disclose "newly generating a network id which is different from the network id used for generating IPv6 address". The examiner fails to understand the logic of this argument. If a plurality of non-IP devices is on the same IP network, then no new network id will be needed for each such device. However, if

these non-IP devices are distributed over a plurality of different networks, a different network id will be used for each group of non-IP devices on a different network, while automatically generating IPv6 addresses for them.

The examiner has therefore concluded that the **independent claim 1 and the dependent claims 2-4 and 7 are obvious and non-novel** over the cited references and are therefore not allowable in their present form**, and thus remain rejected.**

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
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Art Unit: 2443

Hand-delivered responses should be brought to

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-1768. The Examiner can normally be reached on Monday-Friday from 6:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-0800.

/K. G. B./
Examiner, Art Unit 2443

February 9, 2010

/George C Neurauter, Jr./
Primary Examiner, Art Unit 2443